

EFS

Applicants: George J. Christ et al.

Serial No: 10/579,705

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Amendments to Claims:

Please cancel Claims 9, 11, 12, 15, 19, 21, 22, 23, 27, 28, 31, 32, 36, 38 and 42 without prejudice or disclaimer, amend Claims 1, 20, 29, 30, 33 and 35, and add new Claims 45-46 as set forth below.

1. (Currently amended) A method of enhancing penile ~~or urinary bladder~~ smooth muscle relaxation in a subject, comprising the direct introduction and expression of a DNA sequence comprising a smooth muscle alpha actin (SMAA) promoter operably linked to a sequence encoding a maxi-K, ~~K_{ATP}~~, ~~Kv1.5~~ or ~~SK3~~ potassium channel protein in a sufficient number of penile ~~or urinary bladder~~ smooth muscle cells of the subject to enhance penile ~~or urinary bladder~~ smooth muscle relaxation in the subject, wherein the maxi-K potassium channel protein is encoded by hSlo, and hSlo is expressed from the SMAA promoter of plasmid SMAA-hSlo, which plasmid contains a kanamycin-resistant gene, and wherein plasmid SMAA-hSlo is derived from plasmid SMAA-EYFP.

2-6. (Canceled)

7. (Previously presented) The method of claim 1, wherein the DNA sequence is genomic DNA or cDNA.

8-19. (Canceled)

20. (Currently amended) The method of claim 1[[9]], wherein the DNA sequence is introduced by naked DNA transfer.

21-24. (Canceled)

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25. (Previously presented) The method of claim 1, wherein the subject has heightened contractility of a smooth muscle and enhanced relaxation of the smooth muscle results in less heightened contractility of the smooth muscle in the subject.

26-28. (Canceled)

29. (Currently amended) The method of claim 1[[1]], wherein the subject has an erectile dysfunction.

30. (Currently amended) The method of claim ~~29~~28, wherein the erectile dysfunction results from incomplete relaxation of smooth muscle due to neurogenic dysfunction, arteriogenic dysfunction, and/or veno-occlusive dysfunction.

31-32. (Canceled)

33. (Currently amended) The method of claim 29, [[27]] wherein the dysfunction is treated.

34. (Canceled)

35. (Currently amended) A method of treating erectile dysfunction in a subject, comprising the direct introduction and expression of a DNA sequence comprising a smooth muscle alpha actin (SMAA) promoter operably linked to a sequence encoding a maxi-K potassium channel protein that enhances relaxation of corporal smooth muscle in a sufficient number of corporal smooth muscle cells of the subject to enhance relaxation of corporal smooth muscle in the subject and thereby treat the subject's erectile

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dysfunction, wherein the maxi-K potassium channel protein is encoded by hSlo, and hSlo is expressed from the SMAA promoter of plasmid SMAA-hSlo, which plasmid contains a kanamycin-resistant gene, and wherein plasmid SMAA-hSlo is derived from plasmid SMAA-EYFP.

36-42. (Canceled)

43. (Previously presented) The method of claim 1, wherein using the smooth muscle alpha actin (SMAA) promoter operably linked to a DNA sequence encoding the potassium channel protein is at least as effective in enhancing relaxation of the smooth muscle in a subject as using a viral promoter operably linked to the DNA sequence encoding the potassium channel protein.

44. (Previously presented) The method of claim 35, wherein using the smooth muscle alpha actin (SMAA) promoter operably linked to a DNA sequence encoding the potassium channel protein that enhances relaxation of corporal smooth muscle is at least as effective in treating erectile dysfunction in a subject as using a viral promoter operably linked to the DNA sequence encoding the potassium channel protein.

45. (New) The method of claim 43, wherein the viral promoter is a cytomegalovirus (CMV) promoter.

46. (New) The method of claim 44, wherein the viral promoter is a cytomegalovirus (CMV) promoter.